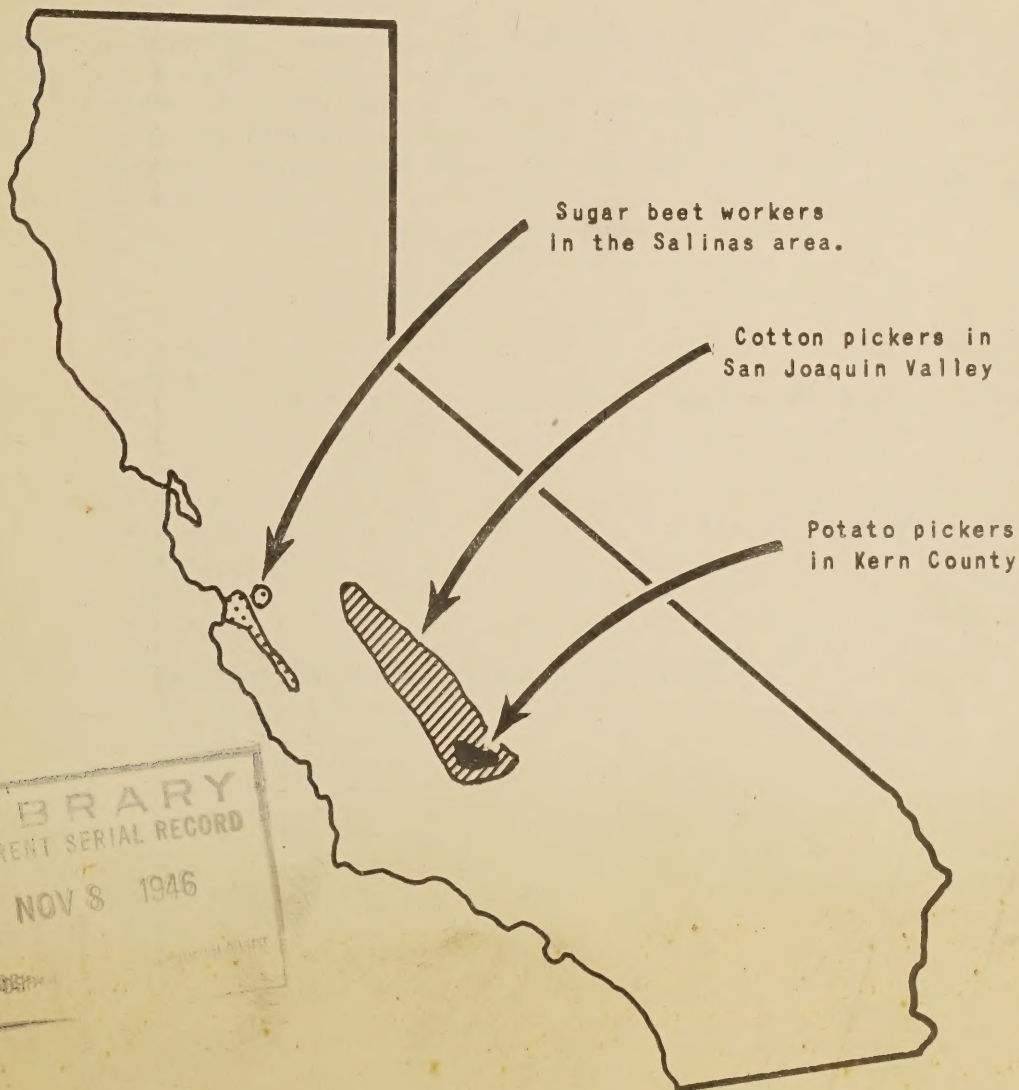


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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

WAGES AND WAGE RATES OF FARM WORKERS IN THE POTATO, SUGAR
BEET, AND COTTON HARVESTS, CALIFORNIA, 1945



Surveys of Wages and Wage Rates in Agriculture, Report Number 14

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PREFATORY NOTE

This is the fourteenth of a series of reports issued by the Bureau of Agricultural Economics, presenting results obtained from enumerative sample surveys of farm wages and farm wage rates. The surveys were planned and conducted under the general direction of Conrad Taeuber, Office of the Chief, by a Bureau-wide Committee, with Louis J. Ducoff as Chairman. Members of the Wage Project Committee are: Glen T. Barton, Emerson M. Brooks, Charles F. Cannell, Charles A. Gibbons, Margaret Jarman Hagood, Roger F. Hale, Earl E. Houseman, Barbara B. Reagan. The State Agricultural Statisticians cooperated in conducting the field operations of the surveys.

The surveys include information on wages and wage rates of seasonal farm workers in special crop areas of various States. This report presents the information obtained on farm workers in selected field crops in California. In addition to reports on wages of harvest workers in special crop areas, other reports present wage data and related information for all hired farm workers, regular and seasonal, on the basis of the national surveys.

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Prepared by William H. Metzler. Special acknowledgment is made to George Scott, State Agricultural Statistician, and to his staff members, Catherine Senf and Wynne Rowlands, for supervising the field work.

WAGES AND WAGE RATES OF FARM WORKERS IN THE POTATO, SUGAR BEET
AND COTTON HARVESTS, CALIFORNIA, 1945

SUMMARY

Among the California field crops that are large users of labor are potatoes, sugar beets and cotton. A survey of wages and wage rates in the major producing areas for these crops was made in 1945. The part covering wages for workers in the potato crop was made in Kern County during the week of June 10 - 16, 1945. Wages for sugar beet workers were surveyed in Monterey County from October 8 - 13, and the survey for cotton workers was made in Kern, Tulare and Fresno Counties during November.

Of the 944 hired workers who picked early potatoes in Kern County in the survey week, 352 or 86 percent were paid at the wage ceiling rate of 6 cents per half-sack. The rest were paid on an hourly basis, usually 75 cents an hour. Approximately half of the pickers were white workers of non-Mexican extraction, 30 percent were local Mexicans, 15 percent German prisoners of war, and 5 percent Negroes. The average work-day was 9.3 hours. More than half the crews worked 9 hours per day. One crew worked as few as 7 hours daily and others as many as 11 hours.

Average output of the regular potato pickers was 16.0 half-sacks an hour, or 149 half-sacks a day. Prisoners of war had a quota of 10 half-sacks an hour which few of them exceeded. Output varied both according to type of worker and yield per acre. Earnings of the regular potato pickers averaged 94 cents an hour and \$8.80 a day, while prisoners of war averaged 62 cents an hour and \$5.60 a day. Piece rate workers averaged 98 cents an hour and hourly workers 74 cents.

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Sugar beets were being harvested both by machine and by hand labor. In the former case, crews were composed largely of white workers of non-Mexican extraction who operated the tractors, the topping and loading machines, and the trucks involved in this method of harvesting. All workers except truck drivers were paid on an hourly basis. When topping and loading were done by hand this work was usually performed by crews either of Mexican nationals or prisoners of war. The rates paid were above those set out under the U. S. Sugar Act, which specifies the minimum rates for various operations.

Most crews worked 10 hours per day, but hours on some of the smaller farms were irregular and brought the average down to 8.7 hours. The average worker topped and loaded four-fifths of a ton per hour, or 6.9 tons a day. This figure excludes the work of prisoners of war, who topped .37 of a ton per hour or 3.1 tons a day.

Earnings of toppers and loaders averaged \$1.18 per hour and \$10.30 a day, and of truck drivers \$1.20 an hour and \$11.70 a day. Cash earnings

of the other workers were substantially lower than these, partly because many of them were furnished a house, or lodging and meals, or other perquisites. Tractor drivers earned an average of 81 cents an hour and harvesting machine operators 92 cents per hour.

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In a sample of 3,230 cotton pickers, slightly over one-third were white workers of non-Mexican extraction and an equal proportion were prisoners of war. Almost one-fourth were Negro. Payment usually was on the basis of \$2.25 a hundred pounds of seed cotton, the federal wage ceiling rate. A few operators, however, paid \$2.50 per hundred.

An average of 7.1 hours were worked per day, which was normal for that time of year. Cotton pickers, excluding prisoners of war, picked an average of 31.7 pounds per hour and 225 pounds per day. Pickers at Bakersfield averaged five pounds per hour more than those at Kingsburg. Pickers in defoliated fields at Tipton picked 4 pounds per hour more than those in non-defoliated fields. Average earnings of cotton pickers other than prisoners of war were 71 cents an hour and \$5.00 a day. Prisoners of war averaged 44 cents an hour.

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INTRODUCTION

Cotton, potatoes and sugar beets are among the California field crops that require much hand labor. According to estimates made by the staff of the California Agricultural Extension Service Farm Labor Project, 1945 labor requirements were 652,200 man-days for potatoes, 703,500 for sugar beets, and 2,958,000 for cotton. 1/ These crops call for "stoop laborers", i.e., workers who do a good deal of bending over, stooping, or squatting in order to accomplish their task.

Labor needs for these crops are gradually being reduced by the introduction of mechanized equipment. This change has proceeded farthest in the production of sugar beets, but it also has made significant headway in the production of cotton and potatoes. Thinning out the young sugar beet plants is the operation which has presented the greatest problem to

1/ "Labor Requirements for California Crops," California Emergency Farm Labor Project, March 1946.

sugar beet growers. This problem has been partially met by segmentation of the best seed, so that one plant comes up instead of four or five. The rows of beets then can be cross blocked with a cultivator, reducing by fifty percent the total labor requirement for thinning. Mechanical harvesting of beets also has progressed to the stage where it can be relied on in all but the wettest seasons.

A few mechanical harvesters are being used for cotton and growers have placed orders for many more. As a result, hand labor may be expected to be greatly reduced in this operation in the near future.

Some growers have potato combines but do not use them because they scuff up the skins of the potatoes and reduce both marketability and keeping qualities. These machines serve only as a last resort if there is a shortage of hand workers.

The present study covers wages and earnings of workers both in hand and in machine operations in harvesting sugar beets, but covers wages only for hand operations in picking potatoes and cotton. No attempt has been made to show labor costs to the grower, which is a complex problem in farm accounting.

Within the last several years cotton picking has been expedited by defoliation of the cotton plants by dusting with calcium cyanide just prior to harvest time. The survey covered enough crews working in defoliated fields to provide a basis for estimating the increased output per hour resulting from use of this process.

WAGES IN THE POTATO HARVEST, KERN COUNTY,
CALIFORNIA, JUNE 10 - 16, 1945

Commercial potato production is relatively new in Kern County. The U. S. census indicates that only 1,337 acres in this county were in potatoes in 1929, but by 1945 the total had increased to 55,000 acres. The sandy soil and warm spring weather in this area are highly favorable to production of early potatoes. Prices for early season potatoes have also been quite attractive, and many farm operators have shifted from other crops to potatoes.

The producing area in the floor of the valley has four parts: the Edison-Arvin district where potatoes mature earliest and where the most rapid recent expansion in acreage has occurred; the Wasco-Shafter area, which is the oldest potato section in the county and in which peak production usually occurs from several weeks to a month later than in the Edison-Arvin district; the Delano-McFarland area, an extension of the Wasco-Shafter district; and the Bakersfield area, where a large number of new operators are trying their hand at potato production.

The 1945 season was normal except that cool weather delayed the harvest slightly. The season's average yield of 340 bushels to the acre was almost exactly normal. Growers feared a shortage of workers for the harvest, but there was a heavy influx of seasonal workers and the labor supply proved adequate. According to estimates of the Agricultural Extension Service Farm Labor Project, the number of workers used and the progress of the harvest in Kern County was as follows:

<u>Week ending</u>	<u>Workers</u>	<u>Percent complete</u>
April 28	950	0
May 5	1,900	4
May 12	3,000	7
May 19	3,500	10
May 26	6,700	20
June 2	8,000	35
June 9	8,200	48
June 16	8,300	58
June 23	7,000	63
June 30	5,500	78
July 7	3,000	99

Potatoes are planted in this area in January and February and the harvest ordinarily begins by the middle of April. Most of the potato pickers are migratory white workers, some of whom are members of the crews of labor contractors. The greatest hazard in the potato harvest is to get the potatoes off the surface of the ground before they turn green and bitter in the bright sunlight. This ordinarily will occur within 15 or 30 minutes after the potato is dug. To avoid this, pickers are assigned segments along

each potato row. The tractor-drawn potato digger moves along the rows, and deposits the potatoes on the ground, then each picker picks his assigned segment along the row. Faster pickers have wide segments and the slower ones narrow ones. Ordinarily a one-row digger will keep a crew of from 25 to 30 workers busy. From 50 to 60 workers will be required for a 2-row digger. Then the entire operation will move across the field at an orderly pace. Pickers ordinarily desire some rest time between rows, and this is also calculated in such a way as to keep all operations coordinated.

Potato pickers wear a belt from which they hang their potato sack. Both hands are thus free to work. Sacks ordinarily are only filled to half full, as they can become too heavy to handle. The half-sack has become the unit by which workers are paid for picking. Growers and foremen sometimes have to check carefully to see that workers put a full 55 pounds in their sacks.

At the time this survey was made, during the week of June 10 - 16, 1945, the harvest in the Edison-Arvin area was already past its peak. In the three other areas the harvest was just approaching peak proportions. Wage data were obtained from potato shippers who hired many of the potato crews either directly or through labor contractors.

Table 1.-Type of workers engaged in picking up potatoes, Kern County, California, June 10 - 16, 1945

Type of worker	Workers reporting:		Sex		Age		
	Number	Percent	Male	Female	Under 18	18-44	45 - over
All groups	994	-	-	-	-	-	-
Classified workers ^{1/}	850	100	599	291	130	654	66
White, non-Mexican extraction	421	50	223	198	81	287	53
Local Mexican	253	30	186	67	28	216	9
Mexican national	3	2/	3	-	-	3	-
Negro	48	5	22	26	21	23	4
Prisoners of war	125	15	125	-	-	125	-

^{1/} Data on race, nationality, sex and age were incomplete for 144 workers.

^{2/} Less than 0.5 percent.

Type of worker.--Potato picking is commonly done by migratory white families of Mexican or non-Mexican extraction who follow this type of work from one potato area to another. Some of these workers are members of loosely organized crews whose work contracts are made by labor contractors. Other families live in the area and obtain jobs for themselves. The larger operators generally hire through labor contractors and have little knowledge as to the nationality, sex, and age of their individual workers. Hence, these operators usually had to give estimates as to the composition of their crews. A few were unwilling to guess.

Data were gathered with respect to 994 workers engaged in potato picking. Information in regard to 144 of these, however, was too general to be included in the tabulations. Of the workers for whom data were complete, almost half were whites of non-Mexican extraction, 30 percent were local Mexicans, and 15 percent prisoners of war. There were only 48 Negroes and 3 Mexican nationals (table 1).

Among crews of white workers of non-Mexican extraction and among Negro crews the number of female potato pickers was almost as great as the number of males. Men had the opportunity to work on potato graders, at swamping and hauling, or on other jobs to a greater extent than the women. There were, however, almost three males to one female among the local Mexican pickers.

Age estimates made by the operators were not precise, but indicate the general tendency of potato pickers to be relatively young. Older workers try to move into potato shed jobs and, if not successful, may leave the potato harvest altogether to find jobs that do not involve continuous stooping.

Rates of pay.--The potato growers in this area applied in 1944 for wage ceilings to cover rates of pay for picking and hauling potatoes. The War Food Administration established a ceiling wage rate of 12 cents per 100 pounds for picking potatoes. A schedule of rates also was set for loading and hauling, governed by the size of the loading crew and length of haul. Under the general wage regulation, potato pickers who were not paid by piece rates could be paid up to 85 cents an hour.

Of the 994 workers surveyed, 852 were paid the wage ceiling rate of 6 cents per half-sack, and 142 were paid on an hourly basis (table 2). Workers were usually paid on an hourly basis in fields where the yield was poor or where the pickers were hampered by weeds, clods or other adverse conditions. Of the 142 hourly workers, 128 received 75 cents an hour and the rest 70 cents per hour.

Sixty of the piece rate workers were to receive an additional bonus based on the total number of sacks picked, provided they remained on the farm throughout the season. The size of the bonus was not indicated.

Table 2.-Rates of pay of potato pickers, Kern County, California, June 10 - 16, 1945

Rate	Workers reporting this rate Number	Proportion of pickers at this rate Percent
Total	994	100
<u>Piece rate</u>		
6 cents per half sack	1/ 852	86
<u>Hourly rate</u>		
70 cents per hour	34	2
75 cents per hour	108	12

1/ Sixty workers were to receive an additional bonus if they remained through until end of season.

Hours of work.-Of the 25 crews contacted, more than half were reported as working 9 hours on the day of the survey. One crew worked 7 hours, 2 worked 8 hours, 5 worked 10 hours, and 1 crew worked 11 hours. The work-day was somewhat longer in areas that were at the peak of their operations and in fields where yields were heaviest (table 3). Differences in hours of work by age, sex and nationality groups were not significant.

Performance.-The output of individual pickers in the survey was highly variable. Some children picked as few as 10 half-sacks a day, whereas one experienced adult on a good field picked 457 half-sacks in an 11-hour day. A crew of 21 pickers on a poor field averaged only 7 half-sacks an hour and 54 in a 7-hour day. The crew with the largest output, 24 local Mexican workers, averaged 28 half-sacks per man per hour or 250 each during their 9-hour work-day.

The average output of all piece-rate pickers in the survey, except prisoners of war, was 16.0 half-sacks an hour or 149 half-sacks in a 9.3 hour day. No data were obtained as to the output of hourly workers. Exact figures were obtained for only one crew of prisoners of war. Members of this crew picked 12 half-sacks per hour, or 108 in a 9-hour day. This was above the quota of 10 half-sacks per hour established by U. S. army officials for prisoners of war. Crews of prisoners were generally described as picking the quota.

Performance of regular piece-rate crews varied both according to area and to yield per field. Highest average output per day was 20.5 half-sacks per hour in the Edison-Arvin district, and the lowest was 11.5 half-sacks per hour (table 3) in the Delano-McFarland district.

The differences according to area were not closely associated with those according to yield. Average yields of the fields in all except the Wasco-Shafter district were close to 200 sacks per acre. Yields in the Wasco-Shafter area averaged 300 sacks per acre.

Output per picker was directly related to yield per acre. In fields yielding under 200 sacks to the acre the average output was 15.0 half-sacks per hour, in fields yielding from 200 to 250 sacks it was still down to 14.6. In fields yielding from 250 to 300 sacks the average output had mounted to 16.3 half-sacks per hour and in those yielding over 300 sacks to 18.3 half-sacks.

On a nationality basis Negro and white workers of non-Mexican extraction had higher average outputs than local Mexican workers. The latter, however, worked on poorer yielding fields, which probably accounts for the lower output.

Output of men was considerably higher than of women, except in the case of Negroes, and that of workers from 18 to 44 years of age was much higher than that of persons above and below this age bracket.

These are only a few of the variables associated with output and hence cannot be regarded as conclusive. A very important consideration, organization of field operations, was not taken into account. Some growers have so worked out the size of their picking crews, the layout of the field, the speed of the digging machine, the location of picking sacks, and rest periods for the workers that the workers lose but little time. Other growers have much poorer coordination of activities and much time and effort is wasted. The latter group of growers is also less likely to give careful attention to keeping the ground free from weeds, clods, and other conditions that impede operations. Output is also affected by the type of digger used, whether it is of the single row or two row type, and by the size of the potatoes being picked. 2/

2/ Growers also suggest that some operators may be slack in checking to see that all sacks are filled to an average of 55 pounds.

Table 3.-Hours, performance and earnings of workers engaged in picking up potatoes, Kern County, California, June 10 - 16, 1945

Area, yield, type of worker	: Number : report- : ing	: Average : hours : per day	: Half-sacks : picked	: Per hour:Per day	: Average earnings : Per hour:Per day
	Number	Number	Number	Number	Dollars Dollars
<u>Piece-rate workers</u>					
<u>Area</u>					
All areas 1/	682	9.3	16.0	149	.96 9.10
Edison-Arvin	128	9.0	20.5	184	1.23 11.10
Wasco-Shafter	327	9.5	17.5	163	1.05 9.80
Rosedale-					
Bakersfield	91	9.8	11.8	116	.71 7.00
Delano-McFarland	136	9.1	11.5	106	.69 6.30
<u>Yield per acre 2/</u>					
All yields 1/	682	9.3	16.0	149	.96 9.10
Under 200 sacks	116	8.6	15.0	129	.87 7.70
200 - 249	218	9.1	14.6	133	.84 7.90
250 - 299	191	9.8	16.3	160	.98 9.60
Over 300	157	9.5	18.3	173	1.10 10.40
<u>Type of worker</u>					
All types 3/	494	9.1	16.0	148	.96 8.90
White, non-Mexican					
extraction	296	9.2	16.9	156	1.01 9.30
Sex					
Male	134	8.9	19.6	174	1.18 10.50
Female	162	9.4	14.7	133	.88 8.30
Age					
18-44	262	9.2	17.4	160	1.04 9.60
Other than 18-44	34	9.2	12.8	119	.77 7.10
Local Mexican	166	9.0	14.1	126	.84 7.50
Sex					
Male	122	8.9	14.9	133	.89 8.00
Female	44	9.1	11.8	108	.70 6.40

(Continued)

Table 3.--Hours, performance and earnings of workers engaged in picking up potatoes, Kern County, California; June 10 - 16, 1945 (Continued)

Area, yield, type of worker	: Number :	Average :	Half-sacks :		Average earnings	
	: report- :	hours :	picked :			
	: ing :	per day :	Per hour:	Per day :	Per hour:	Per day
	Number	Number	Number	Number	Dollars	Dollars
Negro	32	8.9	17.1	153	1.02	9.20
Sex						
Male	14	8.9	18.4	164	1.10	9.90
Female	18	8.9	18.0	161	1.08	9.60
Age						
18-44	15	9.0	20.2	182	1.21	10.90
Other than 18-44	17	8.9	16.3	145	.98	8.70
Prisoners of war 3/	125	9.0	4/ 10.4	4/ 93	.62	5.60
<hr/>						
Hourly workers	142	9.6	5/	5/	.74	7.10

1/ Excluding prisoners of war and one crew of 44 workers on whom performance data were unavailable.

2/ Estimates as to yield per acre were obtained from the growers. These estimates appear to be generous, as they average above the 340 bushels reported by the California Cooperative Crop Reporting Service as the average yield for the area.

3/ Performance data by age and sex not available for all workers.

4/ Exact performance furnished for one crew only. Other crews were described as picking their quotas, i.e., five 100-pound sacks per hour.

5/ Performance data not available for hourly workers.

Earnings.--Average earnings of all potato pickers covered in the survey, excluding prisoners of war, was 94 cents an hour and \$8.80 in a 9.3 hour day. Earnings of piece-rate pickers alone were somewhat higher, 98 cents an hour and \$9.10 in a 9.3 hour day (table 3). Hourly workers earned an average of 74 cents an hour and \$7.10 a day. Growers paid the regular rate of 6 cents a half-sack for potatoes picked up by the prisoners of war. The prisoners averaged 62 cents an hour or \$5.60 a day. These amounts were paid to the U. S. Army, which housed, fed and clothed the prisoners. The Army paid the prisoners 80 cents a day in cash.

Earnings of individual workers were highly variable. They ranged from 60 cents to \$27.42 for the day of the survey. Some crews had average earnings

as low as \$3.21 for the day, while others earned as much as \$15.00. As in the case of performance, earnings varied with area, yield per acre, and type of worker.

Fifty-three percent of the potato pickers working at piece rates earned more than a dollar an hour, while none of those on hourly basis earned that much (table 4). Almost two-thirds of the latter group earned under \$7.50 a day, compared with one-third of those working by the piece. The productivity of hourly workers probably was much less than that of piece-rate workers.

Table 4.—Amounts earned by workers picking up potatoes, Kern County, California, June 10 - 16, 1945

Amounts earned	: Number and proportion of workers earning each amount					
	: All workers 1/		: Piece rate workers		: Hourly workers	
	: Number	: Percent	: Number	: Percent	: Number	: Percent
Per hour - All workers	869	100	727	100	142	100
Under \$.75	261	30	227	31	34	24
\$.75 - .99	224	26	116	16	108	76
\$1.00 and over	384	44	384	53	-	-
Per day - All workers	869	100	727	100	142	100
Under \$7.50	316	37	231	32	87	61
\$7.50 - \$9.99	226	26	171	23	55	39
\$10.00 and over	325	37	325	45	-	-

1/ Excluding prisoners of war.

Perquisites.—The usual practice in the potato harvest has been to furnish no perquisites to potato pickers, except possibly a camp site. The workers usually lived somewhere in the area and drove to the potato fields. Within the last several years growers have sometimes had to furnish transportation in order to get workers. Of the workers covered in this study, the prisoners of war, the Mexican nationals, and 131 of the 866 regular harvest workers were supplied with transportation.

Method of sampling.—Potato shipping firms were used as the medium for obtaining a sample of workers since practically all potatoes harvested in the area move through packing sheds. Operators of these firms usually hired the potato pickers themselves. In the case of growers who hired their own workers, these firms knew which growers were harvesting potatoes at any particular time. The 76 potato shipping firms in the area were listed in geographical sequence, taking the shipping points from north to south.

This list was divided into two groups, those known to be large operators and those firms remaining which included both small operators and some of unknown size. A few sheds had closed for the season before enumerations were made. Enumerators were instructed to cross off all firms that had closed for the season, but to include in the sample every third firm still remaining on the list, using specified substitutes for any firms refusing to supply information.

Records were taken for one day's work of all field workers hired by the selected firms or, in case of firms that did not furnish the picking crews, by the growers whose potatoes were handled by those firms during the survey week. Data were obtained in this way from 25 crews containing 994 persons, including a cross-section of fields in all parts of the area.

WAGES IN THE SUGAR BEET HARVEST, MONTEREY
COUNTY, CALIFORNIA, OCTOBER 8 - 13, 1945

Sugar beets are a major crop in seven widely scattered areas in California: the Salinas Valley in Monterey County, the San Joaquin - Sacramento delta, the Imperial Valley, the Santa Maria area in Santa Barbara County, and local areas in Yolo, Kern, and San Benito Counties. Approximately one-fifth of the State's sugar beet acreage was located in Monterey County which had 21,000 acres. Yolo County was next in importance.

The harvest season varies. Sugar beets are harvested in Imperial County in May, June, and July; in Kern County in August and September; and in most other areas from August into December. The harvest in Monterey County follows the August-December pattern.

Before the war, labor requirements for thinning and harvesting sugar beets were very heavy. Wartime conditions, however, brought about important changes in the industry. First, many growers shifted to production of crops that required less labor and promised higher returns. There were 152,000 acres of sugar beets in California in 1940, but by 1945 the total had dwindled to 102,000.

Scarcity of labor also forced sugar beet growers to adopt means of reducing their labor requirements. The first labor saving measure was the use of segmented sugar beet seed. Use of this type of seed reduced the amount of labor required for thinning. Labor needs at harvest time were reduced by adoption of mechanical harvesting equipment. The harvesting machine which is pulled along the beet rows by a tractor uproots the beets, lifts them on a wheel, severs the tops, and deposits them on trucks that move along beside the harvester. The men on this machine can do the work of from 17 to 22 hand laborers.

By the hand method the beets are raised to the surface of the ground by a beet puller that is drawn along the row by a tractor. The machine is followed by crews of men who carry special beet topping knives. Each knife has a heavy blade with a hook attached to the end. The workers hook the beet with the end of the knife, pull it out of the ground, cut off the crown, and throw the beet into a windrow. Another crew loads the windrowed beets into slowly moving trucks. Loaders grasp several beet roots in each hand and toss them into the trucks.

The mechanical harvester can only be used in dry weather. When the fields are wet the soil balls up and the harvester delivers more dirt than beets. The mechanical harvester is in the shape of a huge wheel and is pulled along the rows by a track-type tractor. The wheel is equipped with spikes which spear the beets and pull them from the ground. After the beets are elevated to the top of the wheel, knives cut off the crowns and draw the beets from the spikes. Conveyor belts carry them back into trucks following the harvester.

When mechanical harvesters are used, small crews of men are still used to take out the beets at the end of the rows and to glean the field.

Progress of the harvest in Monterey County was estimated by field men from the Agricultural Extension Service Farm Labor Project to be as follows:

<u>Week ending</u>	<u>Workers</u>	<u>Percent complete</u>
August 4	100	0
August 18	400	4
September 1	500	9
September 15	600	18
September 29	600	38
October 13	600	44
October 27	600	60
November 10	700	75
November 24	800	88
December 8	800	98

Sugar beets in the Monterey area are produced almost entirely by growers who are under contract to one of two sugar beet companies. During the period of labor shortage, these companies virtually took over management of the harvesting situation. They purchased harvesting machines which they rented out to their growers at the rate of \$10 per acre. They also recruited crews of harvest workers and moved them from farm to farm to harvest the beets by hand when growers preferred this method. Some growers hired crews themselves or used their year-round workers in the harvest operations.

The BAE survey was made during the week of October 8 - 13, 1945. While employment was somewhat greater later in the year, that week represented average operations for the entire season.

Type of worker.—A total of 304 of the 425 workers in the survey were engaged in the hand operation of topping and loading sugar beets. One-third of these workers were Mexican national and a somewhat larger proportion were German prisoners of war. Before the war, toppers and loaders had largely been Filipino and local Mexican workers. In the 1945 season only 15 percent of the workers engaged in this operation were local Mexicans and 10 percent Filipinos (table 5).

Machine operations were largely performed by white workers of non-Mexican extraction. The 8 harvesting machines were all operated by this type of worker, 28 of the 31 tractors, and 61 of the 70 trucks. Three tractors and 8 trucks were operated by local Mexicans. One truck was driven by a Filipino.

Of 12 workers employed to pick up the beets after the machines, 9 were Mexican nationals, 2 were Filipinos and 1 was a local Mexican.

Table 5.-Distribution of workers engaged in harvesting sugar beets by type of operation performed, and by race and nationality, Monterey County, California, October 8 - 13, 1945

Operation performed	: White, non-: : : : : : : All : Mexican : Local : Mexican : : : : workers: extraction : Mexican: national: Filipino: : Prisoners : of war					
	Number	Number	Number	Number	Number	Number
All operations	425	101	59	110	33	122
Top and load	304	4	47	101	30	122
Operate tractor	31	28	3	-	-	-
Operate machine	8	8	-	-	-	-
Pick up after machine	12	-	1	9	2	-
Haul	70	61	8	-	1	-

Rates of pay.-The U. S. Sugar Act provides for the establishment of minimum rates of pay for sugar beet cultivation and harvest operations each year. The established pay scales vary from one producing area to another, and for harvest operations they vary according to the method used and the yield of beets per acre. In 1945 the minimum hourly rate for harvest operations in California other than the Imperial Valley was 65 cents, the minimum piece rate for pulling, topping and loading by hand operations varied from \$1.34 per ton in fields with yields of 20 tons an acre or more to \$2.44 per ton in fields yielding 6 tons or less.

Prior to 1942 the usual practice among California sugar beet growers had been to pay at the minimum rates set in the Government scale. Wartime labor shortages, however, forced wage rates to rise above the Government minima. The general practice in the Salinas area in 1945 was to pay 10 percent above the scale.

On the fields covered in the survey the rates varied from \$1.47 to \$1.75 per ton. The most common rate was \$1.47. Over two-thirds of the toppers and loaders received this rate (table 6). Eleven of the Mexican nationals engaged in this operation were paid on an hourly basis.

Rates of compensation for workers operating tractors, trucks and beet harvesting machines were frequently affected by the fact that quite a number were year-round workers who were supplied with housing, or with lodging and meals, or other perquisites.

Tractor operators worked on a variable pay scale depending on the size and type of tractor and on the amount of responsibility involved. The usual rates were 80 and 85 cents an hour. Two workers received 50 cents an hour with meals and lodging and 3 were paid \$1.00 per hour.

Operators of harvesting machines were paid from 65 cents to \$1.00 an hour. Some growers operated these machines themselves, others drove the tractors that pulled the machines or assisted with the hauling.

Truck drivers who moved the beets from the fields to the beet dumps were sometimes paid by the hour and sometimes by the ton-mile. In the former case the rate of pay usually was either 75 cents an hour plus perquisites, or 1.00 an hour without them. The most usual piece rate for hauling was 75 cents a ton plus 3 cents per ton mile. Some operators reported the total cost of hauling as 85 cents, 95 cents, etc., per ton. These costs ranged from 65 cents to \$1.11 per ton, depending on the length of haul. Some drivers went from one dump to another in order to unload their beets without having to wait in line. This increased the ton-mile costs to the grower.

Table 6.-Rates of pay of workers engaged in harvesting sugar beets, Monterey County, California, October 6 - 13, 1945

Operation and rate of pay	: All workers :		Number of each type of worker					
	:		: White, non-:		:		:	
	:		: Mexican :		: Local :		: Mexican : Fili-: Prisoners	
	Number:	Percent:	extraction	: Mexican:	: national:	: pine :	: of war	
<u>Top and load 1/</u>	304	100	4	47	101	30	122	
\$.70 per hour	11	4	-	-	11	-	-	
1.47 per ton	199	67	1	47	70	-	81	
1.50 per ton	41	14	3	-	6	12	20	
1.55 per ton	6	2	-	-	6	-	-	
1.60 per ton	21	7	-	-	-	-	21	
1.63 per ton	8	3	-	-	8	-	-	
1.75 per ton	8	3	-	-	-	8	-	
<u>Operate tractor</u>	31	100	23	3	-	-	-	
\$.50 per hour	2/ 2	6	1	1	-	-	-	
.60 per hour	2/ 1	3	1	-	-	-	-	
.65 per hour	2/ 1	3	1	-	-	-	-	
.75 per hour	2/ 4	13	3	1	-	-	-	
.80 per hour	9	29	8	1	-	-	-	
.85 per hour	10	33	10	-	-	-	-	
.90 per hour	1	3	1	-	-	-	-	
1.00 per hour	3	10	3	-	-	-	-	
<u>Operate machine</u>	8	100	8	-	-	-	-	
.85 per hour	2/ 4	50	4	-	-	-	-	
.90 per hour	2	25	2	-	-	-	-	
1.00 per hour	2	25	2	-	-	-	-	

(Continued)

Table 6.-Rates of pay of workers engaged in harvesting sugar beets, Monterey County, California, October 9 - 13, 1945 (Continued)

Operation and rate of pay	All workers		Number of each type of worker				
	Number	Percent	White, non-	Local	Mexican	Phil-	Prisoners
			extraction	Mexican	national	pino	of war
Pick-up after machine	12	100	-	1	9	2	-
.65 per hour	4	33	-	-	4	-	-
.70 per hour	7	59	-	-	5	2	-
.72 per hour	1	8	-	1	-	-	-
Haul	70	100	61	8	-	1	-
.65 per hour 2/	1	1	1	-	-	-	-
.70 per hour 2/	1	1	1	-	-	-	-
.75 per hour 2/	10	15	10	-	-	-	-
.80 per hour	2	3	2	-	-	-	-
1.00 per hour	9	13	7	2	-	-	-
.75 per ton plus							
1.03 per ton-mile	12	17	10	2	-	-	-
.85 per ton	2	3	2	-	-	-	-
.90 per ton	2	3	2	-	-	-	-
1.02 per ton	3	4	-	3	-	-	-
1.05 per ton	7	10	6	1	-	-	-
1.08 per ton	8	11	3	-	-	-	-
1.11 per ton	2	3	1	-	-	1	-
Rate not given	11	16	11	-	-	-	-

- 1/ Rates paid for topping and loading were obtained from AAA records.
 2/ These workers obtained lodging, meals, or other perquisites in addition to their cash wages.

Hours of work.--Harvesting crews generally worked 10 hours per day. On some farms, however, the hours were irregular and this brought the average work-day for all workers in the group down to 8.7 hours. Workers engaged in hauling worked somewhat longer hours than the others. Their average work-day was 9.7 hours (table 7).

Performance.--From the small sample used, it was not possible to obtain accurate data on output of workers engaged in pulling, topping, and loading. Although the same crew performs all these operations, members are paid only on the basis of the total tonnage loaded. Varying amounts of beets that have

been pulled and topped, but not loaded, may be left in the field at the end of any pay period. The following data, therefore, are rough approximations rather than precise figures.

Local Mexican workers had the highest output per hour, an average of .52 of a ton per worker per hour, while the Filipinos followed closely with .79 of a ton (table 8). Mexican nationals averaged .71 of a ton and the prisoners of war .37. Output per day varied somewhat differently as some crews worked longer hours than others.

Table 7.-Average hours of work of workers engaged in harvesting sugar beets, Monterey County, California, October 8 - 13, 1945

	Hours per day by type of worker					
Operation	: White, non-: : : : :					
	: All : Mexican : Local : Mexican : : Prisoners					
	: workers: extraction : Mexican: national: Filipino: of war					
All operations <u>1/</u>	8.7	8.9	9.0	8.4	10.1	8.3
Top and load	8.6	<u>2/</u>	9.0	8.4	10.1	8.3
Operate tractor	8.1	8.1	<u>2/</u>	-	-	-
Operate machine	9.4	9.4	-	-	-	-
Pick up after machine	8.4	-	-	8.4	-	-
Haul <u>1/</u>	9.7	9.7	9.2	-	10.0	-

1/ Number of workers on which these data are based appear in table 5, except that hours were reported on only 33 of the 70 workers engaged in hauling.

2/ Fewer than 10 workers, hence no average shown.

Table 8.-Performance of workers engaged in topping and loading sugar beets, Monterey County, California, October 8 - 13, 1945

Type of worker	:Workers : :reporting 1/ : Number	Tons of beets handled	
		: Per hour : Tons	: Per day : Tons
All types	237	2/ .80	2/ 6.9
Mexican national	62	.71	6.0
Local Mexican	33	.82	7.6
Filipino	20	.79	7.7
Prisoners of war	122	.37	3.1

1/ Performance was not reported for approximately one-third of the civilian workers.

2/ Excluding prisoners of war.

Earnings.—The top wages in these operations were earned by two groups of workers, first, those who topped and loaded the beets; and second, those who hauled beets from the fields. The toppers and loaders averaged earnings of \$1.18 an hour and the haulers \$1.20 per hour. Members of the latter group worked longer hours and averaged \$11.70 per day, compared with \$10.30 for the toppers (table 9).

Average earnings for workers performing other operations were substantially lower. Tractor drivers received an average of 81 cents an hour and \$6.60 a day, while machine operators earned 92 cents an hour and \$8.60 a day.

Table 9.—Average earnings of workers engaged in harvesting sugar beets, Monterey County, California, October 8 - 13, 1945

Operation	Earnings by type of worker					
	:	:	:	:	:	:
	: All	: Mexican	: Local	: Mexican	: Fili-	: Prisoners
	: workers 1/	: extraction	: Mexican	: national	: pino	: of war
<u>Dollars per hour</u>						
All operations	2/ 1.14	1.02	1.34	1.06	1.09	.55
Top and load	2/ 1.18	-	1.34	1.09	1.09	.55
Operate tractor	.81	.81	3/	-	-	-
Operate machine	.92	.92	-	-	-	-
Pick up after machine	.60	-	3/	.60	3/	-
Haul	4/ 1.20	1.20	3/	-	3/	-
<u>Dollars per day</u>						
All operations	3/ 9.90	9.10	12.00	8.90	11.00	4.50
Top and load	2/10.30	-	12.10	9.10	11.80	4.50
Operate tractor	6.60	6.60	3/	-	-	-
Operate machine	8.60	8.60	-	-	-	-
Pick up after machine	5.80	-	3/	5.80	3/	-
Haul	4/11.70	11.60	3/	-	3/	-

- 1/ Number of workers on which these averages are based appear in table 5.
- 2/ Excluding prisoners of war.
- 3/ Number of persons involved were too few to provide reliable averages.
- 4/ Based on 27 workers on whom earnings data were complete.

These averages were computed without including figures for prisoners of war. The prisoners worked at a slower than average speed and earned 55 cents an hour and \$4.50 a day. Of this amount, 80 cents a day was received by the prisoner and the balance went into U. S. Army funds to defray expenses of caring for the prisoners.

Of the types of workers, the local Mexican workers had the highest average earnings, \$1.34 an hour and \$12.00 a day. This came from their proficiency in topping and loading. White workers of non-Mexican extraction earned \$9.10 a day and the Mexican nationals \$8.90.

Almost one-fourth of the beet harvest workers earned less than \$7.50 a day. About a fifth earned from \$7.50 to \$10.00 per day, and slightly over half earned more than \$10.00 per day (table 10). On an hourly basis only 11 percent earned less than 75 cents an hour. Some 29 percent of the workers earned from \$.75 to .99 and about 60 percent of them earned over \$1.00 an hour.

The proportions for the different nationality groups deviated widely from this pattern, as each group tended to specialize in different operations. Ninety-two percent of the local Mexican workers earned over \$1.00 an hour, compared with 69 percent of the white workers of non-Mexican extraction.

Table 10.-Amounts earned by sugar beet harvesters per hour and per day, Monterey County, California, October 8 - 13, 1945 ^{1/}

Earnings	: Number and proportion of workers earning specified amounts									
	All		White, non-		Local		Mexican		Filipino	
	workers		extraction		Mexican		national			
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
<u>Per hour</u>										
Total ^{2/}	272	100	74	100	55	100	110	100	33	100
Under \$.75	29	11	5	7	2	4	20	18	2	6
\$.75 - .99	80	29	42	57	2	4	14	13	22	67
\$1.00 and over	163	60	27	36	51	92	76	69	9	27
<u>Per day</u>										
Total ^{2/}	272	100	74	100	55	100	110	100	33	100
Under \$7.50	66	24	17	23	4	7	43	39	2	6
\$7.50-\$9.99	57	21	23	31	12	22	12	11	10	30
\$10.00 - over	149	55	34	46	39	71	55	50	21	64

^{1/} Excluding prisoners of war.

^{2/} Data on all workers for whom wage and hour figures were available.

Perquisites.--Perquisites play an important part in the employment patterns in this area. As already indicated, they affected cash wages quite materially. All Filipino workers were supplied housing, including lights and water. One crew was furnished meals besides. Crews of Mexican nationals were furnished transportation to and from camps, at which they obtained lodging and meals for \$1.50 a day. One operator contributed eggs, meat and beans to his crew of Mexican nationals in an effort to allay their dissatisfaction with the food.

Only 2 of the local Mexican workers obtained any perquisites. One of these was supplied with lodging, meals and transportation, while the other was given transportation only. The former was a tractor driver.

Tractor and machine operators and truck drivers, mostly white workers of non-Mexican extraction, quite frequently were provided with lodging or other perquisites. Eight of these workers were supplied with a house and transportation; 3 with lodging, meals, and transportation; 2 with lodging and meals; 2 with lodging and transportation; and 1 with meals and transportation. Some of these were year-round employees, while others had been offered these inducements in order to obtain their services during the harvest season.

Method of sampling.--The two companies which process the beets in the area supplied lists of all growers who would be carrying on harvesting operations during the survey period. The names on each of these lists were grouped into five categories, according to whether they used Mexican nationals, local Mexicans, Filipinos, or prisoners of war crews or harvested their beets by machine. This grouping insured getting a representation of all harvesting methods used.

The names were then alphabetized and numbered and alternate names were selected for the sample, beginning with number one. In case of failure to obtain a report from a selected grower, the name following his was used as an alternate.

WAGES IN THE COTTON HARVEST, FRESNO, TULARE,
AND KERN COUNTIES, CALIFORNIA, NOVEMBER 1945

Cotton is one of the largest labor-using crops in California. The harvest season extends from September until March and at its peak requires some 35,000 workers. Statisticians in the Agricultural Extension Service Farm Labor Project estimate that the total annual labor requirement of the State's cotton harvest amounts to approximately 2,725,000 man-days of labor. This total would require the labor of an average of 21,800 workers each day during the five-month harvesting period.

The cotton producing area is highly concentrated in a strip 150 miles long and 50 miles wide in southern San Joaquin Valley. Total acreage in 1945 amounted to 317,900 acres, of which 71,000 acres were in Fresno County, 72,000 in Kern County, and 72,000 in Tulare County. ^{3/} All cotton produced in the area is of the Acala variety. Average yields vary from 620 pounds per acre in Kern County, to 580 in Tulare, to 555 in Fresno and to 420 pounds in Merced County at the northern edge of the area.

Yields were normal in the 1945 season. Total production was estimated at 370,000 bales, or 575 pounds of lint per acre. Weather conditions during the picking season were favorable. Rains interfered with the harvest during November and December, but these were somewhat lighter than usual and did not delay the harvest more than a few days. Harvest operations were slowed to some extent by a shortage of pickers. During November, the weekly reports of Extension Service Farm Labor Offices indicated a shortage of 6,000 workers. This may perhaps also be regarded as normal. Cotton growers were quite anxious to get as much of their cotton off as possible before the fall rains set in and reduced the grades. Characteristically, after the rains have passed and the grades are lowered, operators are more willing to wait until the picking crews get to them.

^{3/} Data from "California Cotton Acreage Report for July 1, 1945" issued by California Crop and Livestock Reporting Service.

Cotton picking in the 1945 season started the last week in September. The number of workers employed and the progress of the harvest at bi-weekly intervals are reported by the Agricultural Extension Service Farm Labor Project as follows:

<u>Week ending:</u>	<u>Workers</u>	<u>Percentage complete</u>
September 22	50	0
October 6	7,550	3
October 20	16,270 w	8
November 3	25,850 w	17
November 17	29,900 w	27
December 1	34,200 w	48
December 15	33,700 w	58
December 29	30,250 w	70
January 12	25,300 w	80
January 26	20,600 w	87
February 9	10,800 w	95
February 23	3,050 w	99
March 9	500	100

w - work interrupted by weather conditions.

Several years ago, when labor supplies were more plentiful, it was common to pick over cotton fields three or four times in the season. The usual practice in 1945 was to try to pick them over twice. Poorer fields were often stripped in one picking. Cotton gathered after the first of the year might simply be snapped or pulled, rather than picked out of the boll.

Cotton picking requires a good deal of manual dexterity. The picker must remove all the lint and seed cleanly from each cotton boll. He picks with both hands and places the picked cotton in a picking sack. This sack is of heavy cloth and from 8 to 12 feet long. A strap passes over his shoulder, holding the mouth of the sack within easy reach of his hands. The sack drags along behind the picker on the ground. When full it is weighed and emptied into a wagon or trailer. A full sack contains some 50 to 60 pounds of lint and seed.

Toward the end of the season the cotton stems become quite brittle. Then pickers may merely snap off the bolls at the stem, rather than try to ferret each seed out of the pod. As a result, growers delay this operation as long as possible. Under these conditions, trash gets in the cotton and may lower its grade.

In securing a sample representative of the cotton industry in the State, four areas were selected to represent differing types of production. One was in the territory south of Bakersfield and east of Kern Lake. Cotton matures there somewhat earlier than in the northern counties of the State's production area. Cotton farms range from small to quite large. The number

of workers employed by the 36 growers in the sample in this area ranged from 2 to 93, with an average of 23. Growers estimated that the average yield of the sample fields was 2,050 pounds of seed cotton per acre.

The second area selected is east of Tipton in southern Tulare County. Cotton operations there ranged from small- to medium-sized and yields averaged somewhat smaller than in the Bakersfield area. The 49 growers in the sample in this area hired a total of 752 workers, an average of 15 workers each. Crew sizes ranged from 2 to 48 workers. Estimated yields averaged 1,750 pounds of seed cotton per acre.

The third area extends across the Fresno and Tulare County lines just south of Kingsburg. Operations of growers in this area were so small that most growers had either finished picking or had not yet begun to pick at the time the survey was made, November 2 - 10. Hence all operators who were picking cotton during the sample week were enumerated. The 17 growers who were covered in the survey employed a total of 89 workers, an average of 5 each. The largest number of employees hired by one grower was 10. Yields in this area are below average. For growers in the sample, the average yield was 1,350 pounds of seed cotton per acre.

The fourth area was located in the vicinity of Firebaugh, in western Fresno County. This is a new area of large operations and heavy yields. The 12 operators covered in the survey there employed 1,599 workers, an average of 133 each. Some of these operators felt they had insufficient data upon which to estimate their yields. For the growers who did indicate their yields, the average was 2,300 pounds per acre.

Type of worker.-Slightly over one-third of the workers surveyed were white workers of non-Mexican extraction and another third were prisoners of war (table 11). Most of the rest were Negroes, but there was a small number of California Mexicans and Mexican nationals. The race and nationality make-up of the workers, however, varied from one survey area to another. Over 30 percent of the pickers in the Kingsburg area were white workers of non-Mexican extraction and there was only a small proportion of local Mexicans and Negroes. At the other extreme only 23 percent of the pickers in the Firebaugh area were white workers of non-Mexican extraction, while 39 percent were prisoners of war, 25 percent were Negroes and 11 percent Mexican nationals.

At Tipton over half of the pickers were white workers of non-Mexican extraction and almost 40 percent were prisoners of war. There were only a few Negro and local Mexican workers. At Bakersfield over one-third of the workers were white workers of non-Mexican extraction and there was almost an equal number of Negroes. Most of the rest were prisoners of war.

Table 11.-Type of workers engaged in cotton picking by race, nationality, sex and age, in the Bakersfield, Tipton, Kingsburg and Firebaugh areas, California, November 1945

Area, sex, age, and type of field	Type of worker					
	White, non-		Mexican		Local Mexican	
	:		:		:	
	:All types:		:Mexican:		:national:	
<u>All areas</u>						
Number	3,230	1,150	61	172	712	1,596
Percent	100	36	3	5	22	34
<u>Bakersfield 1/</u>						
Number	790	306	18	-	217	178
Percent	100	39	2	-	36	23
<u>Tipton</u>						
Number	752	415	25	-	20	294
Percent	100	55	3	-	3	39
Sex						
Male	555	236	15	-	10	264
Female	197	177	10	-	10	-
Age						
Under 18	24	21	2	-	1	-
18 - 44	570	251	14	-	11	294
45 and over	158	141	2	-	3	-
Type of field						
Defoliated	366	246	5	-	10	105
Non-defoliated	386	167	20	-	10	189
<u>Kingsburg</u>						
Number	89	74	10	-	5	-
Percent	100	83	11	-	6	-
Sex						
Male	42	31	7	-	4	-
Female	47	43	3	-	1	-
Age						
Under 18	15	15	0	-	-	-
18 - 44	51	39	7	-	5	-
45 and over	23	20	3	-	-	-
<u>Firebaugh 1/</u>						
Number	1,599	366	33	172	399	624
Percent	100	23	2	11	25	39

1/ Sex and age data not obtained in the Bakersfield and Firebaugh areas.

The prisoners of war at Bakersfield were approximately half Japanese and half Korean. Those in the other areas were Germans.

In general the larger operators as in the Bakersfield and Firebaugh districts dealt with workers on a mass basis, hence tended to use large groups of prisoners of war and Mexican nationals. On the other hand, the smaller operators, were more likely to hire on an individual or family basis, and so had a larger proportion of domestic migratory workers.

Sex and age data were available only for the workers in the Tipton and Kingsburg areas. Excluding the prisoners of war at Tipton, there were 261 men and 197 women at work in that area, a ratio of about 5 to 4. At Kingsburg there were 47 female to 42 male workers. The ratio among white workers of non-Mexican extraction was 4 women to 3 men. All of them in that area were inclined to seek other types of work.

Only a small proportion of the pickers were under 16 years of age, but a considerable proportion were over 45.

Rates of pay.—Wage ceilings in cotton picking were established by the War Food Administration in 1943. The ceiling rate was \$2.25 per hundred pounds for picking and \$1.50 per hundred for snapping. The same ceiling rates were continued in 1944 and 1945. In 1943 very few growers were permitted to pay over the ceiling rate. By 1945, however, growers with light fields or weedy fields were permitted by county adjustment committees and the State Wage Board to pay slightly above the ceiling rate, usually at the rate of \$2.50 per hundred pounds.

All workers at Bakersfield and Firebaugh were paid the ceiling rate. At Tipton 98.5 percent of the workers received the ceiling rate and the rest received \$2.50. At Kingsburg 25 percent of the workers received \$2.50 per hundred pounds (table 12). These differentials tend to equalize earning capacity of workers in the four areas. Fields ordinarily are lighter and the fields in poorer condition on the small acreages in the Kingsburg district.

Table 12.—Wage rates of workers engaged in picking cotton in Bakersfield, Tipton, Kingsburg, and Firebaugh areas, California, November 1945

Area	Number reporting	Number and proportion of workers at each rate			
		\$2.25 per cent.		\$2.50 per cent.	
		Number	Percent	Number	Percent
All areas	3,230	3,170	98	33	1
Bakersfield	790	790	100	-	-
Tipton	752	741	98.5	11	1.5
Kingsburg	89	37	75	22	25
Firebaugh	1,599	1,599	100	-	-

Hours of work.-Work was interrupted during the survey week by light showers. There was .05 of an inch of rain in the Bakersfield area on November 6 and .01 on November 7. In Porterville, near the Tipton and Kingsburg areas, rainfall measured .05 and .26 inches. At Firebaugh there was .35 of an inch of rain on Sunday at the beginning of the survey week and .18 on the following Thursday. 4/ These minor interruptions in harvest operations were normal for that season of the year. In fact, interruptions of this type were fewer during the 1945 harvest than they had been for many years.

The workers covered in the survey worked an average of 7.1 hours per day (table 13). The average was slightly higher than this in the Bakersfield area where showers were lightest. The average was 6.7 hours per day in the Kingsburg area and 6.9 hours at Firebaugh.

The usual work-week was 6 days, but the crews of Mexican nationals and prisoners of war in the Firebaugh area worked 7 days.

Table 13.-Average hours worked per day by cotton pickers in the Bakersfield, Tipton, Kingsburg and Firebaugh areas, California, November 1945 1/

Type of worker :	All areas :	Bakers- :	Tinton :	Kings- :	Fire- :
	:	field :	Defoliated :	Non-defoliated :	burg :
					baugh 2/ :
Hours per day					
All workers 3/	7.1	7.2	6.7	6.9	6.8 -
White, non-Mexican					
extraction	6.9	7.1	6.7	6.9	6.8 -
Local Mexican	7.8	6.6	-	7.1	6.6 6.0
Mexican					
national	6.7	-	-	-	- 6.7
Negro	7.3	7.3	6.5	7.2	- -
Prisoners of war	7.5	8.5	8.0	8.0	- 7.0

- 1/ Numbers of workers on which these figures are based appear in table 11.
 2/ Data on hours worked at Firebaugh obtained only on Mexican and prisoner of war crews.
 3/ Excluding prisoners of war.

4/ Data from "Climatological Data: California Section," November 1945, published by Weather Bureau, U. S. Dept. of Commerce.

Performance.--Output per worker in picking cotton depends on many factors. Undoubtedly the most important is the picker himself. Some pickers are known as "dynamiters" and pick from 400 to 600 pounds per day. A few pickers in the survey came in this group, averaging 60 pounds per hour and 2,700 pounds in a 5-day week. At the other extreme, one 12-year-old worker picked 50 pounds in 5 days. To pick only 100 to 150 pounds per week was common for youngsters 12 to 14 years old.

A second set of factors in output is yield and other picking conditions, such as size of the stalks, freedom from weeds, tendency of the cotton to be nappy and to stick to the bolls. A third set of factors arise from the weather and state of the season. Cold, wet and foggy weather give rise to short working days and to reduced output per worker. Some lint may be hanging from the bolls or lying on the ground. Cotton also weighs lighter after having been exposed to the weather for some time. Workers claim to be bothered on second picking by the empty bolls.

Some new factors have been introduced which affect output. One of these is defoliation, which tends to bring about more even maturation of the bolls and to reduce the hindrance to pickers from leaves. A second is the perfection of artificial drying devices, which permit cotton to be picked while still quite damp.

Only a few of these factors could be covered in the present study. Practically all the pickers were still engaged in first picking. Those engaged in the second picking were too few to permit any generalizations.

In the Tipton district, 366 workers were employed in defoliated fields, a sufficient number to indicate that their output was larger by almost 4 pounds per hour or 22 pounds per day than that of workers in non-defoliated fields. The respective average outputs were 30 pounds per hour and 204 per day in non-defoliated fields, compared with 34 per hour and 226 per day in defoliated fields (table 14). Yield per acre could have affected these outputs only slightly, as the average yield in the defoliated fields was 1,880 pounds per acre, compared with 1,600 in the non-defoliated.

The average output of all workers in the survey except prisoners of war was 31.7 pounds per hour and 225 per day. ^{5/} Negro workers had the highest average, 34.2 pounds, and local Mexicans the lowest, 29.5 an hour. Mexican nationals were employed only at Fircbaugh and picked 32.5 pounds per hour. Prisoners of war picked 20 pounds an hour and 143 a day.

^{5/} These totals do not include the output of white and Negro workers at Fircbaugh. The enumeration method used in regard to such crews did not yield reliable results. Either the operators underestimated the number of workers in their crews or the amount of time worked as output and earnings figures ran much too high.

Differences in output according to yield were so obscured by factors of race, age and sex of the workers that no quantitative comparisons could be drawn. Such differences appeared to be less significant, however, than those associated with the individual worker.

On an area basis, the workers at Bakersfield picked 29.1 pounds per hour as compared to 31.5 at Tipton, and 28.1 at Kingsburg. The variations correspond roughly to differences in yield of cotton among the three areas.

Data on differences in output of individual workers according to age and sex were obtainable only for part of the workers in the Tipton and Kingsburg areas, because many families kept a single record for the entire family group. Twenty-three workers under 15 years of age or when separate records were available picked an average of 17.9 pounds an hour.

Separate records were available on 123 persons over 45 years of age. Some of these were excellent pickers and made the highest individual records of any workers in the survey. The oldest picker was 77 years old and several others were over 70. The average output of the workers over 45 years of age was 30.2 pounds per hour, averaging 29 pounds at Kingsburg and 31.1 at Tipton. The higher output at Tipton was partially owing to the fact that a large proportion of the workers were working in defoliated cotton. Those working in defoliated cotton picked 32 pounds an hour, compared with 29 pounds for those in non-defoliated cotton.

Separate data for 157 males and 87 females were available in these two areas. The males picked an average of 34.8 pounds per hour and the females 26.9 pounds. Output varied somewhat from one area to another. At Kingsburg the men picked 31.6 pounds an hour and at Tipton they picked 35.8. Women at Kingsburg picked 23.8 pounds per hour and those at Tipton picked 26.9 pounds per hour.

Table 14.-Performances per hour and per day of cotton pickers in the Bakersfield, Tipton, Kingsburg and Firebaugh areas, California, November 1945

Type of worker	: All	: Bakers-:	Tipton	: Kings-:	Fire-
	: areas	: field	: Defoliated:	Non-defoliated:	burg : baugh
<u>Pounds per hour</u>					
All workers 2/	31.7	33.1	33.5	29.5	27.6 3/
White, non-					
Mexican					
extraction	31.1	31.8	33.4	28.5	26.8 3/
Local Mexican	29.5	38.2	-	38.6	34.2 27.7
Mexican national	32.5	-	-	-	32.5
Negro	34.2	34.3	35.1	29.5	- 3/
Prisoners of war	19.5	17.4	21.1	23.0	- 20.4
<u>Pounds per day</u>					
All workers 2/	225	238	226	204	192 3/
White, non-					
Mexican					
extraction	215	226	225	196	182 3/
Local Mexican	229	254	-	273	225 221
Mexican national	219	-	-	-	219
Negro	248	250	228	213	- 3/
Prisoners of war	147	149	169	184	- 143

- 1/ Number of workers on which these figures are based appear in table 11.
 2/ Except prisoners of war.
 3/ Data excluded. See section on Method of Sampling.

Earnings.-The average earnings of all cotton pickers surveyed, excluding prisoners of war, were 71 cents an hour and \$5.00 per day of 7.1 hours. The fastest picker earned \$1.65 an hour and \$14.75 per day of 9 hours. The slowest worker, a child of 12, earned \$1.13 in 5 days.

Workers at Kingsburg earned 67 cents an hour and \$4.60 a day, which was lower than in the other areas. At Bakersfield average earnings were 74 cents an hour and \$5.30 a day. At Tipton earnings were affected by whether the workers were picking in defoliated or non-defoliated fields. Workers in defoliated fields earned 75 cents an hour and the others 67 cents (table 15).

White pickers of non-Mexican extraction earned 70 cents per hour, whereas Negro workers earned an average of 77 cents per hour. Mexican nationals, employed only at Firebaugh, earned 67 cents an hour. Japanese and Korean prisoners of war at Bakersfield averaged only 38 cents an hour, compared with an average of 46 cents earned by the German prisoners in the other areas. Average earnings of all prisoners of war were 44 cents per hour.

Table 15.-Average earnings per hour and per day of cotton pickers in the Bakersfield, Tipton and Kingsburg areas, California, November 1945 ^{1/}

Type of worker	: All :Bakers-:	Tipton		: Kings-:	Fire-
	: areas :field :	Defoliated:	Non-defoliated:	burg :	baugh
<u>Dollars per hour</u>					
All workers ^{2/}	.71	.74	.75	.67	.64 ^{3/}
White, non-Mexican extraction	.70	.71	.75	.64	.62 ^{3/}
Local Mexican	.68	.86	-	.87	.30 .64
Mexican national	.67	-	-	-	.67
Negro	.77	.77	.79	.66	- ^{3/}
Prisoners of war	.44	.39	.47	.52	- .46
<u>Dollars per day</u>					
All workers ^{2/}	5.00	5.30	5.10	4.60	4.30 ^{3/}
White, non-Mexican extraction	4.80	5.00	5.10	4.40	4.20 ^{3/}
Local Mexican	5.20	5.70	-	6.20	5.30 5.10
Mexican national	4.50	-	-	-	- 4.50
Negro	5.60	5.60	5.10	4.80	- ^{3/}
Prisoners of war	3.30	3.40	3.80	4.10	- 3.20

- ^{1/} The number of workers on which these figures are based appear in table 11.
^{2/} Excluding prisoners of war.
^{3/} Data excluded. See section on Method of Sampling.

The pickers under 12 years of age on whom separate data were available earned an average of 40 cents an hour and \$2.30 a day. Workers over 45 years old earned an average of 69 cents an hour and \$5.10 a day. Older workers at Kingsburg earned 61 cents an hour, while those at Tipton earned 63 cents in non-defoliated fields and 72 cents in defoliated fields.

Average earnings of male pickers on whom separate data were available were 79 cents per hour and \$5.60 per day, compared with 61 cents per hour and \$4.10 per day for the female pickers. Lowest earnings were those of the women in the Kingsburg area, 54 cents an hour and \$3.20 a day. The highest were those of the men picking cotton at Tipton, 83 cents an hour and \$5.80 a day.

Individual or family data were available for 615 pickers in the Bakersfield, Tipton, and Firebaugh areas. Eleven percent of these workers earned less than 50 cents an hour and 2 percent earned over \$1.00 per hour. The remainder earned between 50 cents and \$1.00 per hour (table 16). Almost half of the workers earned less than \$5.00 a day; 45 percent earned from \$5.00 to \$7.49 per day; and 8 percent earned \$7.50 and over per day. Approximately one-fifth of the workers at Bakersfield were in the highest hourly earning brackets, compared with 6 to 8 percent at Tipton and Kingsburg.

Table 16.—Amounts earned by workers engaged in picking cotton in the Bakersfield, Tipton, and Kingsburg areas, California, November 1945—1/

Earnings	Number and proportion of workers							
	All areas				Bakersfield			
	: Num- : Per- :		: Num- : Per- :		: Num- : Per- :		: Num- : Per- :	
	ber	cent	ber	cent	ber	cent	ber	cent
<u>Per hour</u>								
All workers	615	100	71	100	455	100	89	100
Under \$.50	68	11	3	3	47	10	19	21
\$.50 - .99	489	80	53	75	371	82	65	73
\$1.00 and over	58	9	15	22	37	8	5	6
<u>Per day</u>								
All workers	615	100	71	100	455	100	89	100
Under \$5.00	290	47	21	30	228	50	41	46
\$5.00 - \$7.49	277	45	30	42	206	45	41	46
\$7.50 and over	48	8	20	28	21	5	7	8

1/ Includes all workers at Bakersfield, Tipton and Kingsburg on whom individual or family data were available, but excludes all crew data.

Perquisites.-There was no practice common to all areas in regard to furnishing perquisites. Apparently perquisites varied according to local conditions in regard to housing, transportation and employment. At Bakersfield no perquisites were furnished and growers charged 50 cents a day for transporting prisoners of war to and from camp. At Tipton only 9 workers were supplied with lodging. Prisoners of war were transported without charge. At Kingsburg 8 workers were furnished houses, 5 were furnished lodging, and 3 were transported to and from work. At Firebaugh 624 prisoners of war and 509 other workers were furnished transportation, 48 workers were furnished houses, 84 were given a house and transportation, and 126 Mexican nationals were given lodging and transportation. The Mexican nationals were provided 3 meals a day at a charge of \$1.50.

Method of sampling.-Several variable factors exist in relation to cotton growing in the State. Among these are time of maturity, yield and size of operation. The last is significant in several ways, as crews are likely to be larger when operations are larger and yields and picking conditions usually are better.

Four areas were selected to represent the variations in these conditions, the totals for which would represent in a general way the situation for the entire producing area. These are:

<u>Area</u>	<u>Time of maturity</u>	<u>Yield</u>	<u>Size of operator</u>
Bakersfield	Early	Heavy	Most large, some small
Tipton	Average	Average	Most small, some large
Kingsburg	Average	Below average	Very small
Firebaugh	Late	Very heavy	Very large

It was decided that reports should be obtained for a minimum of 500 workers in each of these areas. This would call for reports from approximately 35 growers in the Bakersfield area, 50 each in the Tipton and Kingsburg districts, and 10 at Firebaugh. Using county road maps which showed the location of farm houses, 35 houses were marked which could give a good geographic spread over the Bakersfield area. Fifty were marked according to the same principle in the Tipton district, 50 at Kingsburg, and 10 at Firebaugh.

In actual practice the sizes of crews varied to a greater extent than had been anticipated. The 35 operators in the Bakersfield area employed 790 workers instead of 500, and the 50 operators at Tipton, 750, but the 10 operators in the Firebaugh area hired 1,599 pickers. On the other hand, operations in the Kingsburg district were so small that most growers had already finished one picking and were waiting to start the second. Only 17 operators were picking cotton in this area during the survey week and they employed only 89 pickers.

Consequently it appears that small operators are under-represented in the total sample. On the other hand, they may be adequately represented in relation to the total number of man-hours of harvest labor used.

In arriving at performance and earnings data, some of the schedules from Fircbaugh operators had to be discarded because the data appeared unreasonable. However, operators using Mexican nationals and prisoners of war were not affected since they were required to keep regular reports on the output and earnings of individual workers, and these have been included in the survey.

